

## REMARKS

### Introduction

This amendment after is submitted in response to the Office Action mailed February 2, 2009. Claims 24, 29-33 and 43-45 are pending in the present application. The Office Action included the following rejections and identifications of allowable subject matter.

Claims 24, 29-33 and 43-45 were rejected under 35 U.S.C. § 101.

Claims 29-31 and 33 were rejected under 35 U.S.C. § 112, second paragraph.

Claims 24, and 43-44 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,628,737 ("Timus").

Claim 45 was rejected under 35 U.S.C. § 103(a) as being obvious over Timus in view of U.S. Patent No. 5,991,611 ("Palumbo").

Claims 29-33 would be allowable if rewritten to overcome the rejections under 35 U.S.C. §§ 101 and 112.

### Summary of Examiner Interviews

Applicant's undersigned representative wishes to thank Examiner Sauders for the courtesies extended during the telephonic interviews conducted on December 11, 2009. During the interviews, applicant's representative suggested a number of claim amendments that may be used to overcome the current 35 U.S.C. § 101 rejection. At the conclusion of the interviews, the Examiner agreed that amending independent claim 1, such that the calculating was performed "using a measuring system," would be sufficient to overcome the 35 U.S.C. § 101 rejections in light of the figures (e.g., FIG. 12) and related portions of the originally filed specification.

### Reply to the 35 U.S.C. § 101 of Claims 24, 29-33 and 43-45

Claims 24, 29-33 and 43-45 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Consistent with what was agreed to during the telephonic interviews, independent claim 24 has been amended to recite the calculating is performed "using a measuring system ...."

Claims 29-33 and 43-45 depend on claim 24 and, therefore, are also directed to statutory subject matter.

Accordingly, applicant respectfully requests that the 35 U.S.C. § 101 rejections be withdrawn.

Reply to the 35 U.S.C. § 112 of Claims 29-31 and 33

Claims 24, 29-33 and 43-45 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention. More specifically, the Examiner found “ the ‘quality indicator vector’ compris[ing] a ‘vector’ associated with each time window ... unclear as to how the ‘quality indicator vector’ can have a dimension, for example, of ‘1’ since the ‘quality indicator vector’ comprises a plurality of ‘vectors’ and each ‘vector’ must have a dimension.” Office Action, page 3. The Examiner also asserted that “Applicant’s definition of a vector as including a dimension of ‘1’ as claimed is contrary to its ordinary meaning.” *Id.*

To help expedite allowance, claim 24 has been amended to recite “said quality indicator ~~vector comprises a vector~~ is associated with each of said time windows, and said quality indicator ~~vector has a dimension at least one hundred times less than the number of audio samples in a time window, said dimension has a number of elements~~ being from 1 to 10; ...”

Because the Office Action included no 35 U.S.C. § 112 rejections specific to claims 29-33 or 43-45 and because those claims depend on amended claim 24, applicant respectfully requests that all the 35 U.S.C. § 112 rejections, namely those directed to claims 24, 29-33 and 43-45, be withdrawn.

Reply to the 35 U.S.C. § 102(e) Rejection of Independent Claim 24

Among other things, independent claim 24 has been amended to recite, “directly estimating quality of said digital audio signal as a function of said quality indicator.”

Timus suggests a method of synchronizing comprising the following steps: (1) selecting synchronization patterns (constituted, e.g., by 800 audio samples); (2) performing synchronization using the synchronization patterns; and (3) performing quality evaluation using

the same synchronization patterns. Timus's synchronization patterns are far too large to be correlated to applicant's claimed "quality indicator that has a number of elements being from 1 to 10;" that is used to "directly estimat[e] quality of said digital audio signal as a function of said quality indicator." Claim 24.

In Timus, while a smaller number of "reflection coefficients" may be obtained from Timus's synchronization patterns, the "reflection coefficients" are used to perform rough synchronization – and not used for quality evaluation.

The Examiner nevertheless asserts that because reflection coefficients are used for synchronization and synchronization is required for quality evaluation, then it can be said that quality evaluation is performed "on the basis" of Timus's "reflection coefficients." However, amended claim 24 recites that the quality of the digital audio signal is "directly estimat[ed] ... as a function of said quality indicator."

Timus neither discloses nor remotely suggests that the reflection coefficients could be *directly* used for *quality evaluation*, by computing quality *as a function of them*. Therefore, for at least this reason, amended claim 24 is not anticipated nor made obvious by Timus.

Applicant would also like to note that, contrary to the Examiner's assertion in paragraph 13 (page 9) of the Office Action, an **800-sample** sliding window is represented by **20**, not 4, reflection coefficients. See Timus, e.g., col. 8, lines 36-38. More specifically, four coefficients correspond to a piece consisting of 160 samples, but there are 5 such pieces in a sliding window. Therefore, the vector formed by Timus's reflection coefficients associated with a sliding window has a dimension that is only 40 times ( $800/20 = 40$ ) less than the dimension of the sliding window. In contrast, applicant's claim 24 recites a quality indicator has a number of elements that is *at least one hundred times less* than the number of audio samples in Timus's time window. This distinguishing feature alone makes claim 24 not anticipated and non-obvious in view of Timus.

Indeed, applicant respectfully submits that it would not have been obvious for a person of ordinary skill in the art at the time of applicant's priority date to consider the possibility of using an indicator having such a low number of elements, not only for rough synchronization, but also for *quality evaluation*.

For at least the aforementioned reasons, applicant respectfully requests that the anticipation rejection of claim 24 based on Timus should be withdrawn.

Reply to the Rejection of the Dependent Claims

At least because claims 29-33 and 43-45 depend on claim 24, which is allowable for the reasons discussed above, claims 29-33 and 43-45 are also in condition for allowance.

Withdrawn Dependent Claims

The remaining dependent claims, that is, claims 25-28 and 34-42, are considered withdrawn as being directed to a non-elected species, but should be rejoined upon the confirmation that a generic claim is found allowable.

Conclusion

In view of the amendments and remarks presented above, it is respectfully submitted that all of the present claims of the present application are in condition for allowance. It is therefore respectfully requested that a Notice of Allowance be issued. The Examiner is encouraged to contact applicant's undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

Appl. No.: 10/502,425  
Amdt. dated January 4, 2010  
Reply to Office Action of September 15, 2009

It is believed that a one-month extension of time and corresponding fee are required and are petitioned for in the documents being filed herewith. It is not believed that any fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required (including fees for net addition of claims) is also hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Adam M. Kaplan". The signature is fluid and cursive, with the first name "Adam" and last name "Kaplan" clearly distinguishable.

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